

**Departmental and Program Assessment
Annual Assessment Plan Basic Update**

Academic Year: 2012-2013

Academic Unit: Physics

Chair: Spayde (Fall), Wright (Spring)

Student Assessment Plan (SAP) – Basic Check-list

1. Have any changes been made to your program's student assessment plan or student learning goals? Your recent version should be on the web at <http://www.hendrix.edu/academics/academics.aspx?id=2004>. If you have made changes, then attach a copy of the new plan or goals.
 yes no

2. Are student learning goals available to students on the web on the departmental/programmatic page(s)? If not, then this will be considered as an action plan for the coming year.
 yes no

3. Are student learning goals, appropriate for each course, included in the course syllabi in your department or program? If not, then this will be considered as an action plan for the coming year.
 yes no

Student Assessment Plan Development - Departments and programs who have a complete and current SAP should consider the next step in SAP development.

1. As a next step in SAP development, departments/programs are encouraged begin working on an assessment audit to determine how student learning goals fit across the courses in the major. Sometimes the term “scaffolding” is used to describe this process. This could be as complicated as a full grid of student learning goals, or a single learning goal, across the courses in the major. (This has not been required of departments, but it is a recommended next step when the SAP is up to date.) Has your program already done this?

✓ yes □ no *If yes, please provide any **new** results in either in prose or as a table. If no, then this could be the next annual action plan for your program.*

Yearly Assessment Report – each department or program is expected to have assessment discussions for at least two hours each academic year. If necessary, help is available from David Sutherland, just call.

1. What was your planned action item identified in your last report?
 - Plan for adequate coverage of courses for the majors and the service courses over the next five years as Damon Spayde and Todd Tinsley prepare for sabbaticals and Bob Dunn prepares for phased retirement.
 - Assess the algebra-based General Physics courses to make sure they are meeting the needs of students preparing for the new MCAT test format.

2. Briefly summarize the topics discussed in your annual assessment meeting.

The department met for the assessment meeting on July 16, 2012. Assessment topics included:

- Adding new course in Earth Sciences
 - Revision of the major to provide more flexibility for our students who do not proceed to physics graduate school after graduation and for students who are completing the degree in three years.
 - Plans to convert the General Physics sequence from lecture/lab format to a “Workshop” or “Studio” format in which lecture and lab exercises are blended together in a more experiential learning environment.
 - The need for more advanced laboratory experiences in the major.
 - The Physics department contribution to the new college first-year course, “The Engaged Citizen.”
 - Adding more computational components to the upper-level physics classes.
 - Plans to request 5th faculty member in the department.
 - Plans to cover courses during the next several years that will include phased-retirement for Dunn, and sabbaticals for Wright, Tinsley, and Spayde.
3. What was the conclusion of your assessment discussion and how did the collected assessment data inform your conclusion? Specifically describe any curricular or programmatic changes that have been made that were based, at least in part, on the data in your SAP.
 - PHYS 170 Introductory Earth Science and PHYS 171 Introductory Earth Science with lab were submitted to the curriculum committee and approved by the faculty. They will be taught starting Spring 2014. The courses will help students satisfy the NS or NS-L learning domains, and will also be helpful for students seeking teaching certification.

- The Physics major was revised. CHEM 120 General Chemistry II was removed from the required list of courses. PHYS 340 Electronics is now required. A list of elective courses was added. The physics major now requires one course from the following list:
 - PHYS 450 Directed Research
 - PHYS 490 Topics in Physics
 - MATH 230 Multivariable Calculus
 - MATH 270 Linear Algebra
 - CSCI 150 Foundations of Computer Science
 - CSCI 151 Data Structures and Object-Oriented Development
 - CHEM 120 General Chemistry II
 - EDUC 290 Science in Personal and Social Perspectives

The decision to change the major was based on several assessment discussions and collected data, including formal and informal exit interviews and placement of graduates into graduate programs and employment.

- The department determined that a transition from lecture/lab format to Workshop format for the General Physics sequence would be beneficial to students and faculty based on several published articles and personal experience. The department is in a good position to make this transition in the near future because Dr. Spayde is willing to devote a significant portion of his upcoming sabbatical to the preparation for the transition. Dr. Spayde received an Odyssey Professor award starting in Fall 2013 and continuing for three years. During this time, he will take a one year sabbatical, in which half of the time will be devoted to facilitating the transition to Workshop format.
 - The department discussed the need for more advanced laboratory experiences, especially in the area of computational modeling. The addition of digital logic circuits in Electronics, and numerical methods exercises in Vibrations and Waves and the upper-level physics courses are some suggested ways to address this need.
 - The Physics department is committed to staffing the Engaged Citizen course with one faculty participant each year if we are able to adequately staff the courses necessary for our service and majors courses. Dr. Tinsley will teach TEC in Fall 2013.
 - The letter requesting a fifth department member was greatly revised and submitted in summer 2012. The request was denied. The letter will be revised and submitted again in 2013.
 - A letter requesting a search for a replacement for Dr. Dunn's position was drafted and submitted in summer 2012. The request was denied. The letter will be revised and submitted again in 2013.
4. Define one new action item for your assessment discussions next year.
- To accomplish a full department assessment review as part of the normal 7-10 year assessment cycle.